

Organic Chemistry

Major Topics

- Drawing / Naming Compounds



- Isomers

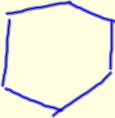
- Reactions



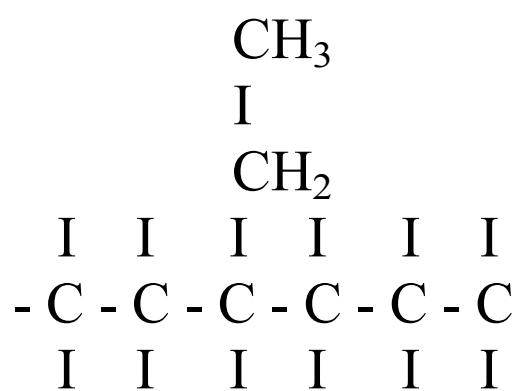
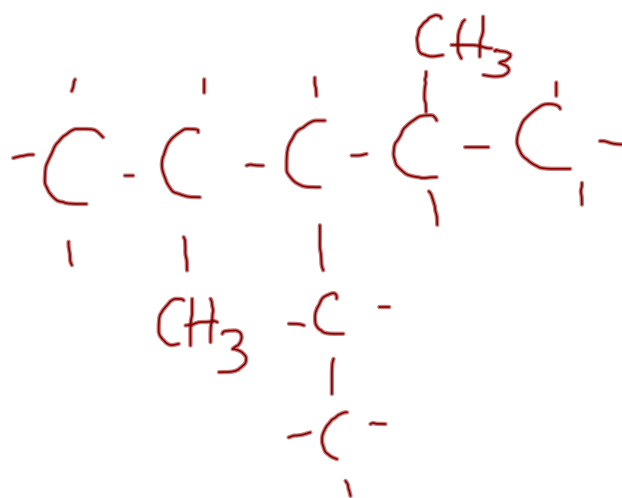
You Should Know...

- General formulas of alkanes, alkenes, alkynes, and cyclic compounds
- Aromatic compounds.
- Pi bonds
- Characteristics of organic compounds

Families of Organic Compounds (p.294)

Alkanes	ethane	$\begin{array}{c} & \\ -C & -C- \\ & \end{array}$
Alkenes	ethene	$\begin{array}{c} \diagdown & \diagup \\ C & =C \\ \diagup & \diagdown \end{array}$
Alkynes	ethyne	$-C \equiv C-$
Aromatics and Cyclic Compounds	cyclohexane	
Organic Halides	chloroethane	$\begin{array}{c} & \\ -C & -C-Cl \\ & \end{array}$
Alcohols	ethanol	$\begin{array}{c} & OH \\ & \\ & \\ -C & -C- \\ & \end{array}$
Carboxylic Acids	ethanoic acid	$\begin{array}{c} & O \\ & \\ & \\ -C & -C-OH \end{array}$
Aldehydes	ethanal	$\begin{array}{c} & O \\ & \\ & \\ -C & -C- \end{array}$
Ketones	propanone	$\begin{array}{c} & O \\ & \\ & \\ -C & -C-C- \\ & \end{array}$
Esters	methyl ethanoate	$\begin{array}{c} & O \\ & \\ & \\ -C & -C-O-C- \\ & \end{array}$
Ether	ethyl methyl ether	$\begin{array}{c} & & & \\ -C & -O- & C & -C- \\ & & & \end{array}$

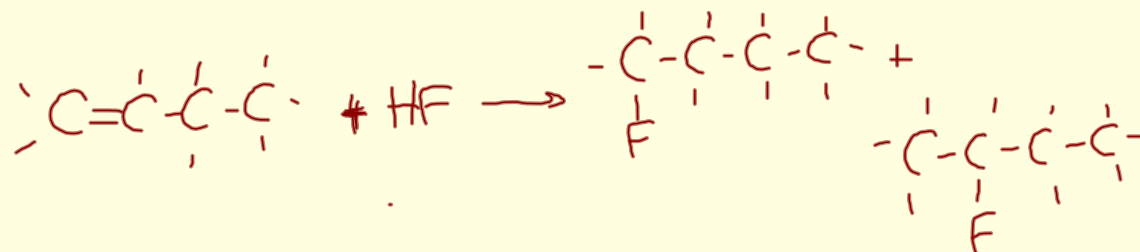
Draw ethyl-2,4-dimethylpentane



Reactions

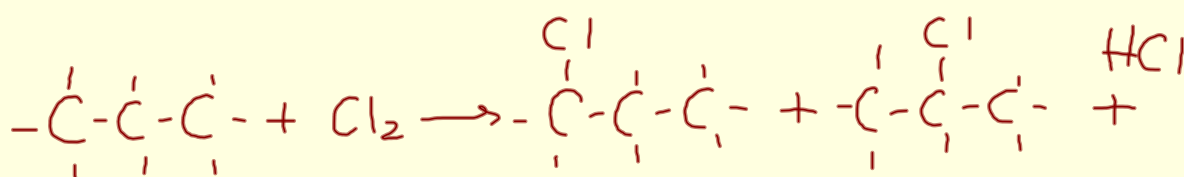
Addition

alkene/alkyne + H₂ or HX or X₂



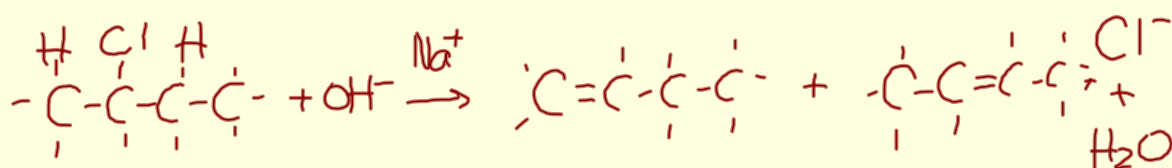
Substitution

alkane/aromatic + halogen



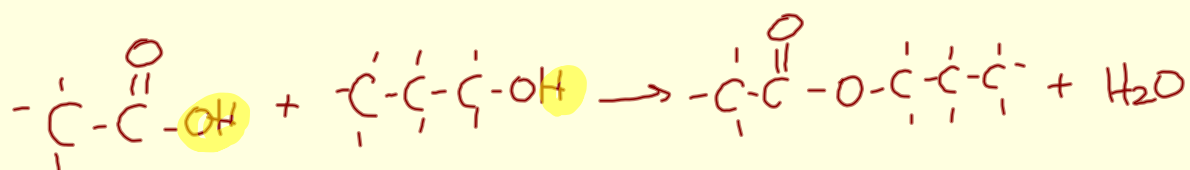
Elimination

alkyl halide + OH⁻
alcohol + acid



Esterification

carboxylic acid + alcohol



Cracking

Formation